

Amendment to the Claims:

1. (Cancelled).

2. (Previously Presented) A magnetic resonance apparatus comprising:
a magnet assembly for generating a main magnetic field through a subject disposed in an examination region, the magnet being disposed in a magnetic resonance suite;

a sequence control system for generating magnetic resonance sequences;

an RF coil which at least receives resonance signals from the examination region, the RF coil being disposed adjacent the examination region;

an image processing system which processes the resonance signals received by the RF coil into images and manipulates the reconstructed images;

a wireless interface disposed with an antennae in the magnetic resonance suite for wireless communication between a handheld wireless remote control unit and at least one of the sequence control system and the image processing system;

the handheld wireless remote control unit including:

an image display for displaying images and information from at least one of the sequence control system and the image processing system to an operator;

an RF receiver for receiving RF signals via the wireless interface from at least one of the sequence control system and the image processing system which carry the images and information for display on the image display;

an input portion for accepting requests from the operator;

an RF transmitter for transmitting the operator requests by the wireless interface to at least one of the sequence control system and the image processing system.

3. (Previously Presented) A magnetic resonance apparatus comprising:
a magnet assembly for generating a main magnetic field through a subject disposed in an examination region, the magnet being disposed in a magnetic resonance suite;

a sequence control system for generating magnetic resonance sequences;
an RF coil which at least receives resonance signals from the examination region, the RF coil being disposed adjacent the examination region;
an image processing system which processes the resonance signals received by the RF coil into images and manipulates the reconstructed images;
a wireless interface disposed with an antenna in the magnetic resonance suite for wireless communication between (i) at least one of the sequence control systems and the image processing system and (ii) a wireless remote control unit for communicating information to an operator from at least one of the sequence control system and the image processing system, the wireless remote control unit including:
a radio frequency receiver for receiving radio frequency signals from the wireless interface.

4. (Original) The magnetic resonance apparatus as set forth in claim 3, further including:

a microprocessor for processing operator input to the remote control unit.

5. (Previously Presented) The magnetic resonance apparatus as set forth in claim 2, wherein the wireless interface and the remote control unit communicate with carrier frequencies greater than 500 MHZ.

6. (Original) The magnetic resonance apparatus as set forth in claim 5, wherein the carrier frequencies are between 2.3 and 2.6 GHz.

7. (Cancelled).

8. (Currently Amended) A magnetic resonance apparatus including:

a magnet assembly for generating a main magnetic field through a subject disposed in an examination region, the magnet being disposed in a magnetic resonance suite;

a sequence control system for generating magnetic resonance sequences;

an RF coil which at least receives resonance signals from the examination region and wirelessly transmits the resonance signals, the RF coil being disposed adjacent the examination region;

an image processing system disposed outside the magnetic resonance suite which processes the resonance signals ~~received by the RF coil~~ into images and manipulates the reconstructed images;

an RF receiver and transmitter disposed inside the magnetic resonance suite for receiving the resonance signals transmitted from the RF coil and re-transmitting resonance signals from inside the magnetic resonance suite to the image processing system;

an RF antenna disposed inside the magnetic resonance suite that is connected to the image processing system for relaying the transmitted resonance signals to the image processing system;

radio frequency transceivers for providing a wireless communication pathway from the RF coil to the RF transmitter.

9. (Cancelled) .

10. (Currently Amended) The method as set forth in claim ~~11~~ 14 further including:

identifying ~~an~~ the selected RF coil with which the magnetic resonance signals are received using a radio frequency communicated handshaking protocol.

11. (Cancelled).

12. (Currently Amended) The method as set forth in claim ~~11~~ 14, further including:

wirelessly communicating and displaying information pertinent to a current magnetic resonance scan on a remote unit.

13. (Currently Amended) The A method of magnetic resonance comprising as set forth in claim 12, further including:

generating a main magnetic field through a subject disposed in an examination region in a magnetic resonance suite;

generating magnetic resonance sequences;

receiving resonance signals from the examination region with an RF coil disposed adjacent the examination region;

converting the resonance signals into resonance data and transmitting the resonance data on a carrier signal;

reconstructing image representations for the magnetic resonance signals;

receiving the carrier signal with a wireless interface and communicating the resonance data to an image processing system;

wirelessly communicating between a handheld wireless remote control unit and at least one of a sequence control system and the imaging processing system through the wireless interface;

transmitting reconstructed image representations from the wireless interface and receiving reconstructed image information representations with the remote unit;

displaying the received image information representations on the remote unit.

14. (Currently Amended) A method of magnetic resonance comprising:
inducing a main magnetic field through a subject in an imaging region;
exciting and manipulating magnetic dipoles within the imaging region;
receiving magnetic resonance signals with one of a plurality of selected RF coils each carrying a radio frequency coil identification system that transmits a unique coil identification, the selected an RF coil which is removably mounted adjacent the imaging region to receive resonance signals emanating from the subject;
wirelessly communicating an the identification of an the selected RF receiving coil at radio frequencies greater than or equal to 500 MHz that do not interfere with the magnetic resonance signals to one of a sequence control system and a reconstruction system, the RF receiving coil being mounted adjacent the imaging region to receive resonance signals emanating from the subject;

communicating the resonance signals to the reconstruction processor; and
reconstructing the resonance signals with the reconstruction processor
into an image representation of the ~~patient~~ subject in the imaging region.

15. (Cancelled).

16. (Cancelled).

17. (Cancelled).

18. (Cancelled).

19. (Previously Presented) In the magnetic resonance imaging system as set forth in claim 21, wherein the radio frequency communicating includes:

communicating control signals from a hand held controller in the imaging suite to at least one of the sequence control system and the image processing system.

20. (Previously Presented) In the magnetic resonance imaging system as set forth in claim 21, wherein the communications are digitally encoded on the radio frequency communication signals.

21. (Currently Amended) In a magnetic resonance imaging system that includes a shielded imaging suite, a magnet which generates a primary magnetic field through an imaging region located in the imaging suite, RF and gradient coils disposed adjacent the imaging region in the imaging suite, a sequence control system disposed out of the imaging suite, and an image processing system, disposed out of the imaging suite, and a hand held remote for use in the imaging suite the sequence control signal communicating magnetic resonance sequence instructions to the RF and gradient coils, magnetic resonance signals received by the RF coils being communicated to the image processing system, the improvement comprising:

wirelessly communicating magnetic resonance sequence selections from the handheld unit to the out-of-suite sequence control system;

wirelessly communicating the magnetic resonance sequence instructions from the out-of-suite sequence control system to the RF and gradient coils; and

wirelessly communicating the received magnetic resonance signals from within the magnetic resonance suite to the out-of-suite image processing system over radio frequency communication signals greater than 0.5 GHz; and

wirelessly communicating reconstructed images from the image processing system to the hand held remote.